Meeting #5 Summary

Surface Water Management

Water Comprehensive Plan Task Force

July 9, 2007 Saint Paul Riverfront Corporation
Meeting Notes by Andrew Jacobson

Members Present: George Johnson (chair), Cliff Aichinger, Sarah Clark, Bob Fossum, Boa Lee, Hokan Miller, Gregory Page, Shirley Reider, Obi Sium, Ron Struss, John Wells and Rebecca Wooden.

Members Absent: Marj Ebensteiner, Bruce Elder, Yung Kang Lu, Steve Johnson, Tom Petersen, Steve Schneider, Kou Vang, Larry Zangs and Jie Zhao.

Staff Present: Anne Hunt, Andrew Jacobson, Larry Soderholm, Brain Tourtelotte and Anne Weber.

Guests Present: Barbara Haake, Lance Neckar, Randy Neprash and Judy Sventek.

1. **Welcome and check-in** by George Johnson. Ron Struss asked about the possibility of restoring the Mississippi River gorge to its natural flow. Restoring the natural flow and removing the Ford Dam could improve recreation opportunities as well as provide sturgeon spawning grounds. However, the Army Corps of Engineers is in charge of the dam and maintaining the system of pools in between each of the locks. The Ford dam provides about 15 megawatts of energy, or roughly enough to power 15,000 homes. Additionally, the dam was recently relicensed for another 25-30 years. It is unlikely that the dam will be removed and the river returned to its natural state in that time.

2. **Introduction** by George Johnson. This is our first meeting on surface water management. Unfortunately, we were unable to reserve a speaker from the MPCA on Lake Pepin and TMDLs. We will move that discussion to August.

3. **Regulatory management** of surface waters was presented by Cliff Aichinger. Aichinger handed out three items. One indicated how to find the Ramsey-Washington Metro Watershed District's (RWMWD) Watershed Management Plan. The second included copies of powerpoint slides that described watershed management in Minnesota and the third was composed of tables that described different programs and regulations. These handouts are valuable resources.

   Aichinger discussed the watershed organizations in closer detail, although most of this information is in the handouts. There are 37 watershed organizations in the

metro area, split into 14 watershed districts (WD), 21 joint power watershed management organizations (WMO) and two county-run watershed organizations. The differences between a WD and WMO are important. A WD is a special purpose local unit of government that has taxing authority sufficient to implement its watershed management plan (RWMWD levies a two percent property tax, about $25 on a $200,000 property, whereas Capitol Region WD (CRWD) taxes about $11 on the same property). WDs are governed by a board of managers, consisting of five to nine people appointed by the county board, proportional to the area of county land within a watershed. Lastly, no watershed organizations are able to make land use decisions, implement zoning or issue fines. Joint power WMOs are agreements between cities' whose lands constitute a particular watershed. WMOs receive their money from these cities' general funds. WMOs do not have the taxing authority or other powers that the WD has. Mississippi WMO has received special legislative authority to levy taxes directly to the residents. The purposes of these organizations are the same as well.

Lastly, Aichinger emphasized a few points and responded to questions:

- The reason for the complexity in water laws is because the local governments do not succeed in protecting what they should be. This is understandable, since they cannot manage resources on a watershed basis.
- Complete watershed management is crucial because it stitches together the individual cities that lie within the same watershed.
- A few sewers in Saint Paul were hand built in the 1920's, including the Beltline Interceptor. This is essentially economically-impossible to replace (or daylight).
- Saint Paul is the permit holder for the NPDES Stormwater Municipal Storm Sewer (MS4) Program. RWMWD and CRWD are also permit holders. These permits apply to the stormsewer systems under ownership or management of each local unit of government.

4. The **EQB's report, "Use of Minnesota's Renewable Water Resources: Moving Towards Sustainability"** was discussed by John Wells. The report takes stock of how much of each county's homegrown, renewable water supplies are consumed, today and in the year 2030. The report serves as an early warning to the core counties of the Twin Cities that their supplies are not unlimited. The report estimated the amount of homegrown water within each county (excluding rivers, such as the Mississippi River, that carry waters from upstream counties by or through another county) and compared that to an estimate of how much water the county was consuming. Ramsey County was the only county that is currently consuming more than its long term share of renewable homegrown supplies. However, by 2030, three other counties – Washington, Hennepin and Dakota are expected to join Ramsey. Despite decreases in the per capita residential use of water, water use is still increasing overall. Ramsey County is estimated to use about 480 gallons/capita/day. Statewide, the number is about 750 gallons/capita/day, although that statistic is skewed by various uses like mining,

irrigation and certain heavy water using industries that don't exist in Ramsey County.

5. A preliminary **list of surface water management (SWM) issues** was discussed by Larry Soderholm. Soderholm thanked the SWM work group that brainstormed the list of issues. The issues are on the backside of the meeting's handout.

6. **Urban design, density and SWM issues** was discussed by Lance Neckar, a professor of Landscape Architecture at the U of M. Neckar touched on many points but stressed the interconnectedness of issues as well as the benefits of density. Some of the more important ideas are discussed below.

   Density:
   - Saint Paul is relatively dense and impervious. These impervious surfaces are highly connected and the runoff is quickly piped to the Mississippi.
   - Density has many benefits, but must be designed, planned (located well) and engineered to achieve SWM.
   - One of the most effective ways of slowing stormwater in dense areas is green roofs. Another option, often paired with green roofs is storage.
   - Berlin, Germany has, in particular, considered the important benefits of density in SWM. Green roofs are even required in parts of Berlin.
   - Seven density units (du)/acre of gross density is needed to support bus transit in the metro area.
   - Net density is different than gross density. Net density does not include green space or roads and is therefore much higher than gross density which includes all land regardless of cover (15 – 30 du/acre net density is generally equated in this metro area with 7 du/acre gross density).

   Location:
   - Location is critical. Pervious surfaces, impervious surfaces, where infiltration is wanted should all be dependent on location.
   - Not only the amount of impervious surface is important, the topographic placement of impervious next to pervious surfaces is also important.
   - St. Paul is a built city and lies mostly in the lower third of the watershed. Infiltration is as important in the higher elevation areas of the watershed, as in the lower areas. Restoring prairies to the higher areas would probably have greater benefit than an equal amount restored at a lower elevation in the watershed.
   - Connections between infiltration areas or conveyance areas for surface water should be maximized. Could there be an infiltration area that ran along Summit Avenue's right of way as a public good?
   - Even the Comprehensive Plan needs to consider location in its analysis. Certain areas are better for infiltration and others for storage.

   Implications for the city:
   - If Saint Paul had better topographic, soils and infrastructure analysis on our drainage systems this could induce a subwatershed map that included the natural and built environment. Then, overlay districts in the zoning

code could be created that indicated where infiltration is more/less important.

- WDs cannot dictate zoning or land use decisions, but they can influence these decisions through water management rules and standards.
- Urban areas will not be able to infiltrate much, but they should do what they can. Especially if the first ½ inch of water could be infiltrated, the majority of pollutants in the runoff would be captured.
- Urban mixed soils is the term for most of the soil in Saint Paul. This indicates some level of compaction and change in composition of the soil. Urban mixed soils vary tremendously even within a few feet of each other. The erratic composition and compaction of urban soils requires many soil borings to be conducted to determine soil type and infiltration capacity.
- In Saint Paul, only a small percentage infiltrates to the aquifers. Almost all surface water goes to the Mississippi River and Lake Pepin. If there was less impervious surfaces, more water could recharge the aquifers.

Education:

- Better education is needed because even task force members are unaware of the implications of the new watershed district rules and how the new developments are meeting them.
- More interpretative features in public areas are needed to highlight the importance of SWM and some of the best management practices that attempt to resolve them.

Surface water management (SWM):

- CRWD and RWMWD allow alternative compliance options for different soils (bedrock, urban mixed soils and sand infiltrate differently).
- Since the new watershed district rules were adopted in October 2006, many of the new projects have had to adjust to the infiltration rules. Most of the new projects, including the SuperTarget along University have underground infiltration areas.
- What if SWM or aquifer recharge areas were considered public goods? What more could be accomplished or acceptable?
- Envision switching zoning around in order to protect undisturbed land in a way that values the ecological (and human health) function of green space. The zoning would seek to preserve undeveloped green space and connect these areas. Additionally, the zoning would account for the range of ecological functioning of different green spaces, making better functioning areas more valuable.

7. **Check-out** by Johnson.

Meeting ended at 5:30 p.m., followed by a quick discussion on the five alternative development scenarios for the Ford Plant and their possibilities for innovative SWM.